Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Unit 1: Gases Test Remediation 2014-2015

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. The molecular weight of a gas is _____ g/mol if 3.5 g of the gas occupies 2.1 L at STP.
a. 41 b. 5.5×10^3 c. 37 d. 4.6×10^2 e. 2.7×10^{-2}

____ 2. A vessel contained N_2, Ar, He, and Ne. The total pressure in the vessel was 987 torr. The partial pressures of nitrogen, argon, and helium were 44.0, 486, and 218 torr, respectively. The partial pressure of neon in the vessel was _____ torr.
a. 42.4 b. 521 c. 19.4 d. 239 e. 760

____ 3. One significant difference between gases and liquids is that _____.
a. a gas is made up of molecules
b. a gas assumes the volume of its container
c. a gas may consist of both elements and compounds
d. gases are always mixtures
e. All of the above answers are correct.

____ 4. Of the following gases, _____ has density of 2.104 g/L at 303 K and 1.31 atm.
a. He b. Ne c. Ar d. Kr e. Xe

____ 5. Which of the following is <u>not</u> part of the kinetic-molecular theory?
a. Atoms are neither created nor destroyed by ordinary chemical reactions.
b. Attractive and repulsive forces between gas molecules are negligible.
c. Gases consist of molecules in continuous, random motion.
d. Collisions between gas molecules do not result in the loss of energy.
e. The volume occupied by all of the gas molecules in a container is negligible compared to the volume of the container.

____ 6. Of the following gases, _____ will have the greatest rate of effusion at a given temperature.
a. NH_3 b. CH_4 c. Ar d. HBr e. HCl

____ 7. A fixed amount of gas at 25.0 °C occupies a volume of 10.0 L when the pressure is 667 torr. Use Boyle's law to calculate the pressure (torr) when the volume is reduced to 7.88 L at a constant temperature of 25.0°C.
a. 846 b. 0.118 c. 5.26×10^4 d. 526 e. 1.11

____ 8. A fixed amount of gas at 25.0°C occupies a volume of 10.0 L when the pressure is 629 torr. Use Charles's law to calculate the volume (L) the gas will occupy when the temperature is increased to 121°C while maintaining the pressure at 629 torr.
a. 10.9 b. 13.2 c. 2.07 d. 7.56 e. 48.4

____ 9. A 150.0 L sample of gas is collected at 1.20 atm and 25ºC. What volume does the gas have at 1.50 atm and 20.0ºC?
a. 94 L b. 120 L c. 143 L d. 183 L

____ 10. Calculate the approximate volume of a 0.600 mol sample of gas at 15.0ºC and a pressure of 1.10 atm.
a. 12.9 L b. 22.4 L c. 24.6 L d. 129 L